

REMARKS/ARGUMENTSRECEIVED
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The Applicants confirm the withdrawal of Claims 1-15 without prejudice. Claims 16-17 having previously been cancelled. Claims 18-25 were pending in this application.

The outstanding Office Action has rejected all pending Claims 18-25 on various grounds and over five applied references (*Sing et al.* (USPN 6,645,818 hereinafter "Sing"), *Inumiya et al.* (USPN 6,054,355 hereinafter "Inumiya"), *Sugawara et al.* (USPN 6,841,430 hereinafter "Sugawara"), *Dakshina-Murthy* (USPN 6,406, 950 hereinafter "Dakshina-Murthy"), and *Hammond et al.* (USPN 6,680,496 hereinafter "Hammond"). Claims 18 & 25 are cancelled herein. Claims 19 and 24 are amended. New Claim 26 is added. Claims 16-24 & 26 are now pending in this application. The various grounds of rejection are discussed below.

Objections

Claims 24 and 25 objected to as lacking antecedent basis or including typographic errors.

Accordingly, Claim 24 is amended to correct a typographic error and Claim 25 is cancelled.

Accordingly, the Applicants submit that the claims are believed to have overcome the objections and should be in allowable form as now written. Therefore, the Applicants request that the present objection be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 18-25 stand rejected as unpatentable under 35 U. S. C. §§ 103(a) in view of numerous references. These references and rejections are discussed in detail below.

Claims 18-25 is rejected as unpatentable over *Sing* in view of *Inumiya*.

Claims 18 & 25 are cancelled making discussion of these claims a moot point.

Claim 19

However, all of the limitations of Claim 18 are incorporated into Claim 19.

The Applicants point out that *Sing* (like *Inumiya*) requires the formation of dummy gates 20 to facilitate self-aligned fabrication. The claimed process does not use self-aligned processes, nor does it claim them. The claimed invention foregoes such processes to obtain the thermal advantages inherent in the claimed method (See, e.g., 12:4-16 of the instant Specification). So the present invention absents the dummy gate processes required in *Sing* (see the dummy gates 20, 40, of Figs 4-10 and the discussion pertaining thereto). So the present invention does not require many necessary elements of the cited art. This is de facto indicia of non-obviousness.

Additionally, *Sing* does not teach or suggest etching into the underlying substrate to form a deposition trench for channel depositions as claimed in Claim 19.

One must look to *Inumiya* to make up at least these shortcomings of the *Sing*. Problematic of *Inumiya* is that the ILD layer 66 of *Inumiya* (discussed at 37:8-19, at Fig. 53B and elsewhere) is formed before the annealing steps of the claimed invention. Accordingly, the prior art annealing is conducted after ILD formation instead of before as required by the claims (e.g., "after forming the source and drain diffusion region and after annealing, covering the surface of the semiconductor substrate with a first layer of dielectric material to form a first interlayer dielectric layer"). This limitation is directly imported from base Claim 18 and comprises no change to the claim content.

Thus, the annealing and densification processes of *Inumiya* when combined *Sing* teach an invention not claimed by the inventors. Thus, the addition of dummy gates (not required by the claims) and the mis-ordering of process operations result in a non-functional invention which does not make obvious Claim 19 which significantly omits these steps.

Accordingly, for at least the reasons explained above, the Applicants submit that the cited combination of references is insufficient to establish a *prima facie* case of obviousness as to Claim 19. Accordingly, Applicants respectfully request that the pending ground of rejection for Claim 19 be withdrawn.

As to dependent Claim 20, nothing in the art cited above overcomes the deficiencies explained above in the discussion of the Claim 19 rejection. Accordingly, for at least the

reasons explained above, the Applicants submit that the cited combination of references is insufficient to establish a *prima facie* case of obviousness as to dependent Claim 20. Accordingly, Applicants respectfully request that the pending ground of rejection for Claim 20 also be withdrawn.

As to dependent Claims 21-24, nothing in the art portions of either *Sugawara* or *Hammond* address, let alone overcome, the deficiencies explained above in the discussion of the Claim 19 rejection. Accordingly, for at least the reasons explained above, the Applicants submit that the cited combination of references is insufficient to establish a *prima facie* case of obviousness as to dependent Claims 21-24. Accordingly, for at least the reasons explained above with respect to base Claim 19, the Applicants submit that the cited combination of references is insufficient to establish a *prima facie* case of obviousness as to Claims 21-24.

It should also be pointed out that the high temperature processing of the "buffer layer 2" in *Sugawara* operates at almost 900°C which is hot enough for annealing problems to occur. This will effect the post anneal process steps claimed in Claims 21-24 and will damage the claimed structures. Thus, this combination is unsuitable for use with the claimed invention. Accordingly, for at least this added reason, the cited art fails to make obvious the claimed invention. Therefore, Applicants respectfully request that the pending grounds of rejection for Claims 21-24 be withdrawn.

Thus, for at least these reasons, the Applicants respectfully submit that the cited portions of the art fail to establish a *prima facie* case of obviousness as to Claims 19-24 and accordingly the cited art is therefore insufficient to establish a rejection under 35 U.S.C. § 102. Consequently, the Applicants respectfully request that the pending grounds of rejection be withdrawn as to Claims 19-24.

New Claim:

Claim 26 is added to specifically clarify certain patentable subject matter. Of particular relevance is the post anneal and implantation operations of gate formation and dielectric layer formation. Also, the implementation of a silicate ILD layer having a nitride layer formed on top protects the underlying substrates from the effects of nitride layers and nitride processing while still providing dielectric isolation from a nitride layer. The specific advantages of such sequencing include an enhanced thermal budget and other process advantages described in the

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specification. Moreover, the underlying art is believed to be insufficient for the reasons discussed above with respect to the other claims.

Conclusion:

In view of the foregoing amendments and remarks, it is respectfully submitted that the claimed invention as presently presented is patentable over the art of record and that this case is now in condition for allowance.

Accordingly, the Applicants request withdrawal of all pending rejections and request reconsideration of the pending application and prompt passage to issuance. As an aside, the Applicants clarify that any lack of response to any of the issues raised by the Examiner is not an admission by the Applicants as to the accuracy of the Examiner's assertions with respect to such issues. Accordingly, Applicants specifically reserve the right to respond to such issues at a later time during the prosecution of the present application, should such a need arise.

As always, the Examiner is cordially invited to telephone the Applicants' representative to discuss any matters pertaining to this case. Should the Examiner wish to contact the undersigned for any reason, the telephone number set out below can be used.

Additionally, if any fees are due in connection with the filing of this Amendment, the Commissioner is authorized to deduct such fees from Deposit Account No. 12-2252 (Order No. 03-2051).

Respectfully submitted,

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